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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/074,158

02/12/2002

Harry Contopanagos

BP 2110

5042

7590

09/09/2004

Timothy W. Markison  
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Austin, TX 78716-0727

EXAMINER

MAI, ANH T

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/074,158

Applicant(s)

CONTOPANAGOS ET AL.

Examiner

Anh T. Mai

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-8, 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Apel et al. [US 6407647].

Apel discloses a dielectric layer between first and second conductive windings 14, 12; the conductive windings having substantially square geometry as seen in figure 1, wherein the corners of the windings are geometrically shaped which inherently reduces impedance of the inductor.

With respect to claims 3 and 10, by visual inspection, figure 1 shows the interior angle per corner of approximately 135° and exterior angle per corner of approximately 135°.

With respect to claim 4, the winding 14 having spiral configuration which inherently reduces impedance of the inductor at operational frequency.

With respect to claims 5 and 13, bridge 14c connects windings 14 and 12 at crossover area 20 [figure 1; col 2, lines 59-64].

With respect to claims 6-7 and 14-15, the winding with such angle corners of Apel inherently derives same function as of the claimed structure.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Apel in view of Morikawa [US 6285273].

Apel discloses the invention as claimed as cited above except for the interior angle pre corner of approximately 90°. Morikawa discloses a square spiral conductor in figure 1, wherein the interior corner angle being approximately 90°. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to keep the interior angle at 90° as taught by Morikawa to Apel. The motivation would have been to derive the function as expected by the transformer. Therefore, it would have been obvious to combine Morikawa with Apel.

***Response to Arguments***

Applicant's arguments filed August 16, 2004 have been fully considered but they are not persuasive.

5. In response to applicant's argument that there is no suggestion or teaching of using a winding that has substantially square geometric shape that includes corners of the winding geometrical shaped to reduce impedance of the inductor at operating frequency.

Applicant argues that Apel does have "rectangular windings" instead of "*substantially* square winding" as recited by applicant. The term "*substantially*" in the claim is a relative term which could render the claim indefinite. The term "*substantially*" is not defined by the claim, the

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specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Therefore, rectangular could be readable as “substantially square”. In addition to the argument, applicant indicates that Apel does not include the corners that reduce impedance of the inductor at an operating frequency. However, by visual inspection of figure 1, the corners of the winding 12 include such features. Even though Apel does not mention the intended purpose of the geometry winding corners, but meets all of the positively recited structure of an inductor which would provide the same function as the claimed structure.

With respect to claims 2 and 9, applicant argues that Morikawa teaches spiral/meander shape and no specific as to a rectangular or square therefore no teaching of shaping the windings to reduce impedance of the windings at operating frequency. Applicant is invited to inspect figures 4 and 7 where the strip lines are “*substantially square spiral shape*”, similarly to Apel, Morikawa is silent the intended purpose of the geometry winding corners, but meets all of the positively recited structure of an inductor which would provide the same function as the claimed structure.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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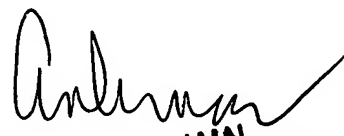
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ANH MAI  
PRIMARY EXAMINER